

IN THE CLAIMS

The following listing of claims will replace all prior versions of claims in the Application.

1. (currently amended) A network state machine for a home phone line network, comprising:

3 a first signal, wherein asserting the first signal programs the network state machine for a first mode;

5 a second signal, wherein asserting the second signal programs the network state machine for a second mode; and

7 a third signal, wherein asserting the third signal programs the network state machine for a third mode,

9 wherein an asserted second signal is substituted for an asserted first signal,

10 wherein the network state is the second mode if the asserted second signal is  
11 substituted for an asserted first signal,

12 wherein a network state is the second mode if the second signal is asserted,

13 wherein the network state is the third mode if the network state is not the  
14 second mode.

2. (original) The network state machine of claim 1, further comprising:

3 a fourth signal, wherein asserting the fourth signal indicates a detection of a  
4 frame in a second mode format with a private communication field (PCOM) set to  
5 “1” while a station is in the third mode and a Link Integrity Status is set to “DOWN”,  
6 or a detection of a frame in the second mode format with a PCOM set to “0”; and

7 a fifth signal, wherein asserting the fifth signal indicates a detection or  
8 transmission of a frame in the second mode format with a PCOM set to “2”,

9 wherein the network state is the second mode if the first signal or the second  
10 signal is asserted, or if the fourth signal or the fifth signal is asserted and the third  
11 signal is not asserted,

12 wherein the network state is the third mode if the network state is not the  
second mode.

1       3. (original) The network state machine of claim 1, wherein the first signal is a  
2       ConfigV1M2 signal under a Home Phone Line Networking Alliance specification  
3       version 2.0 (“HPNA 2.0”).

1       4. (original) The network state machine of claim 1, wherein the second signal is  
2       a ConfigV1 signal under HPNA 2.0.

1       5. (original) The network state machine of claim 1, wherein the third signal is a  
2       ConfigV2 signal under HPNA 2.0.

1       6. (original) The network state machine of claim 2, wherein the fourth signal is  
2       a V1\_DETECTED signal under HPNA 2.0.

1       7. (original) The network state machine of claim 2, wherein the fifth signal is a  
2       V1\_SIGNALLED signal under HPNA 2.0.

1       8. (original) The network state machine of claim 2, wherein the PCOM field set  
2       to “1” refers to a station in the first mode or a station in the second mode if the fourth  
3       signal is not asserted.

1       9. (original) The network state machine of claim 2, wherein the PCOM field set  
2       to “0” refers to a station which supports a 1 megabit-per-second (mpbs) data rate but  
3       not a 10 mpbs data rate.

1       10. (original) The network state machine of claim 2, wherein the PCOM field set  
2       to “2” refers to a station in the first mode or a station in the second mode if the fifth  
3       signal is asserted.

1 11. (original) A network state machine for a home phone line network,  
2 comprising:

3 a first signal, wherein asserting the first signal programs the network state  
4 machine for a first mode;

5 a second signal, wherein asserting the second signal programs the network state  
6 machine for a second mode;

7 a third signal, wherein asserting the third signal programs the network state  
8 machine for a third mode;

9 a fourth signal, wherein asserting the fourth signal indicates a detection of a  
10 frame in a second mode format with a PCOM set to “1” while a station is in the third  
11 mode and a Link Integrity Status is set to “DOWN”, or a detection of a frame in the  
12 second mode format with a PCOM set to “0”; and

13 a fifth signal, wherein asserting the fifth signal indicates a detection or  
14 transmission of a frame in the second mode format with a PCOM set to “2”,

15 wherein a network state is the second mode if the first signal or the second  
16 signal is asserted, or if the fourth signal or the fifth signal is asserted and the third  
17 signal is not asserted,

18 wherein the network state is the third mode if the network state is not the  
19 second mode.

1 12. (original) The network state machine of claim 11, wherein the first signal is a  
2 ConfigV1M2 signal under HPNA 2.0.

1 13. (original) The network state machine of claim 11, wherein the second signal  
2 is a ConfigV1 signal under HPNA 2.0.

1 14. (original) The network state machine of claim 11, wherein the third signal is a  
2 ConfigV2 signal under HPNA 2.0.

1       15. (original) The network state machine of claim 11, wherein the fourth signal is  
2       a V1\_DETECTED signal under HPNA 2.0.

1       16. (original) The network state machine of claim 11, wherein the fifth signal is a  
2       V1\_SIGNALLED signal under HPNA 2.0.

1       17. (original) The network state machine of claim 11, wherein the PCOM field  
2       set to “1” refers to a station in the first mode or a station in the second mode if the  
3       fourth signal is not asserted.

1       18. (original) The network state machine of claim 11, wherein the PCOM field  
2       set to “0” refers to a station which supports a 1 megabit-per-second (mpbs) data rate  
3       but not a 10 mpbs data rate.

1       19. (original) The network state machine of claim 11, wherein the PCOM field  
2       set to “2” refers to a station in the first mode or a station in the second mode if the  
3       fifth signal is asserted.

1        20. (original) A network state machine for a home phone line network,  
2        comprising:

3                a ConfigV1M2 signal, wherein asserting the ConfigV1M2 signal programs the  
4        network state machine for a V1M2 mode;

5                a ConfigV1 signal, wherein asserting the ConfigV1 signal programs the  
6        network state machine for a 1M8 mode;

7                a ConfigV2 signal, wherein asserting the ConfigV2 signal programs the  
8        network state machine for a 10M8 mode;

9                a V1\_DETECTED signal, wherein asserting the V1\_DETECTED signal  
10      indicates a detection of a 1M8 format frame with a PCOM set to “1” while a station is  
11      in the 10M8 mode and a Link Integrity Status is set to “DOWN”, or a detection of a  
12      1M8 format frame with a PCOM set to “0”; and

13                a V1\_SIGNALLED signal, wherein asserting the V1\_SIGNALLED signal  
14      indicates a detection or transmission of a 1M8 format frame and with a PCOM set to  
15      “2”,

16                wherein a network state is the 1M8 mode if the ConfigV1M2 signal or the  
17      ConfigV1 signal is asserted, or if the V1\_DETECTED signal or the V1\_SIGNALLED  
18      signal is asserted and the ConfigV2 signal is not asserted,

19                wherein the network state is the 10M8 mode if the network state is not the  
20      1M8 mode.

1        21. (currently amended) A method for supporting three network states under  
2        HPNA 2.0 using two network states, comprising the steps of:

3                (a) determining if a first signal, a second signal, or a third signal is  
4        asserted, wherein an asserted first signal programs a network state machine for a first  
5        mode, wherein an asserted second signal programs the network state machine for a  
6        second mode, and wherein an asserted third signal programs the network state  
7        machine for a third mode;

8                (b) substituting an asserted second signal for an asserted first signal;

9                (c) setting a network state to the second mode if the second signal is  
10      asserted; and

11                (d) setting the network state to the third mode if the network state is not  
12      the second mode; and

13                (e) setting the network state to the second mode if the asserted second  
14      signal is substituted for the asserted first signal.

1        22. (original) The method of claim 21, wherein the determining step (a) further  
2        comprises:

3                (a1) determining if a fourth signal or a fifth signal is asserted, wherein an  
4        asserted fourth signal indicates a detection of a frame in a second mode format with a  
5        PCOM set to “1” while a station is in the third mode and a Link Integrity Status is set  
6        to “DOWN”, or a detection of a frame in the second mode with a PCOM set to “0”,  
7        wherein an asserted fifth signal indicates a detection or transmission of a frame in the  
8        second mode format with a PCOM set to “2”.

1        23. (original) The method of claim 21, wherein the setting step (c) comprises:

2                (c1) setting a network state to the second mode if the first signal or the  
3        second signal is asserted, or if the fourth signal or the fifth signal is asserted and the  
4        third signal is not asserted.

1        24. (original) The method of claim 21, wherein the first signal is a ConfigV1M2  
2        signal under HPNA 2.0.

1        25. (original) The method of claim 21, wherein the second signal is a ConfigV1  
2        signal under HPNA 2.0.

1        26. (original) The method of claim 21, wherein the third signal is a ConfigV2  
2        signal under HPNA 2.0.

1        27. (original) The method of claim 22, wherein the fourth signal is a  
2        V1\_DETECTED signal under HPNA 2.0.

1        28. (original) The method of claim 22, wherein the fifth signal is a  
2        V1\_SIGNALLED signal under HPNA 2.0.

1        29. (original) The method of claim 22, wherein the PCOM field set to “1” refers  
2        to a station in the first mode or a station in the second mode if the fourth signal is not  
3        asserted.

1        30. (original) The method of claim 22, wherein the PCOM field set to “0” refers  
2        to a station which supports a 1 mpbs data rate but not a 10 mpbs data rate.

1        31. (original) The method of claim 22, wherein the PCOM field set to “2” refers  
2        to a station in the first mode or a station in the second mode if the fifth signal is  
3        asserted.

1       32. (original) A method for supporting three network states under HPNA 2.0  
2       using two network states, comprising the steps of:

3               (a) determining if a first signal, a second signal, or a third signal is  
4       asserted, wherein an asserted first signal programs a network state machine for a first  
5       mode, wherein an asserted second signal programs the network state machine for a  
6       second mode, and wherein an asserted third signal programs the network state  
7       machine for a third mode;

8               (b) determining if a fourth signal or a fifth signal is asserted, wherein an  
9       asserted fourth signal indicates a detection of a frame in a second mode format with a  
10      PCOM set to “1” while a station is in the third mode and a Link Integrity Status is set  
11      to “DOWN”, or a detection of a frame in the second mode with a PCOM set to “0”,  
12      wherein an asserted fifth signal indicates a detection or transmission of a frame in the  
13      second mode format with a PCOM set to “2”;

14               (c) setting a network state to the second mode if the first signal or the  
15       second signal is asserted, or if the fourth signal or the fifth signal is asserted and the  
16       third signal is not asserted; and

17               (d) setting the network state to the third mode if the network state is not  
18       the second mode.

1       33. (original) The method of claim 32, wherein the first signal is a ConfigV1M2  
2       signal under HPNA 2.0.

1       34. (original) The method of claim 32, wherein the second signal is a ConfigV1  
2       signal under HPNA 2.0.

1       35. (original) The method of claim 32, wherein the third signal is a ConfigV2  
2       signal under HPNA 2.0.

1       36. (original) The method of claim 32, wherein the fourth signal is a  
2       V1\_DETECTED signal under HPNA 2.0.

1       37. (original) The method of claim 32, wherein the fifth signal is a  
2       V1\_SIGNALLED signal under HPNA 2.0.

1       38. (original) The method of claim 32, wherein the PCOM field set to “1” refers  
2       to a station in the first mode or a station in the second mode if the fourth signal is not  
3       asserted.

1       39. (original) The method of claim 32, wherein the PCOM field set to “0” refers  
2       to a station which supports a 1 mpbs data rate but not a 10 mpbs data rate.

1       40. (original) The method of claim 32, wherein the PCOM field set to “2” refers  
2       to a station in the first mode or a station in the second mode if the fifth signal is  
3       asserted.

1       41. (original) A method for supporting three network states under HPNA 2.0  
2       using two network states, comprising the steps of:

3           (a) determining if a ConfigV1M2 signal, a ConfigV1 signal, or a  
4       ConfigV2 signal is asserted, wherein an asserted ConfigV1M2 signal programs a  
5       network state machine for a V1M2 mode, wherein an asserted ConfigV1 signal  
6       programs the network state machine for a 1M8 mode, and wherein an asserted  
7       ConfigV2 signal programs the network state machine for a 10M8 mode;

8           (b) determining if a V1\_DETECTED signal or a V1\_SIGNALLED signal is  
9       asserted, wherein an asserted V1\_DETECTED signal indicates a detection of a frame  
10      in a 1M8 frame format with a PCOM set to “1” while a station is in the 10M8 mode  
11      and a Link Integrity Status is set to “DOWN”, or a detection of a 1M8 frame with a

1 PCOM set to “0”, wherein an asserted V1\_SIGNALLED indicates a detection or  
2 transmission of a 1M8 format frame with a PCOM set to “2”;

3 (c) setting a network state to the 1M8 mode if the ConfigV1M2 signal or  
4 the ConfigV1 signal is asserted, or if the V1\_DETECTED signal or the  
5 V1\_SIGNALLED signal is asserted and the ConfigV2 signal is not asserted; and

6 (d) setting the network state to the 10M8 mode if the network state is not  
7 the 1M8 mode.